**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 5**

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| **In the Matter of:** | ) | |
| | ) | |
| **Johns Manville** | ) | **NOTICE AND FINDING OF VIOLATION** |
| **Defiance, Ohio** | ) | |
| | ) | **EPA-5-25-OH-6** |
| Proceedings Pursuant to | ) | |
| the Clean Air Act, | ) | |
| 42 U.S.C. §§ 7401 et seq. | ) | |

## NOTICE AND FINDING OF VIOLATION

The U.S. Environmental Protection Agency finds that Johns Manville is violating Section 112 of the Clean Air Act ("CAA"), 42 U.S.C. § 7412, the Ohio State Implementation Plan ("SIP"), and its Title V Permit at Plant No. 8 in Defiance, Ohio ("Facility"). Specifically, Johns Manville is violating the National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at 40 C.F.R. Part 63, Subpart NNN ("NESHAP Subpart NNN"), the Ohio construction permit program at Ohio Administrative Code ("OAC") Chapter 3745-31, and its Title V Permit as follows:

### Regulatory Authority

**NESHAP Subpart NNN**

1. On June 14, 1999, the EPA promulgated NESHAP Subpart NNN pursuant to Section 112(d) of the CAA. 64 *Fed. Reg.* 31695.

2. After the effective date of any emissions standard, limitation, or regulation promulgated under Section 112 of the CAA and applicable to a source, the owner or operator is prohibited from operating such source in violation of such standard, limitation, or regulation, as set forth at Section 112(i)(3) of the CAA, 42 U.S.C. § 7412(i)(3), and 40 C.F.R. § 63.4.

*3.* Pursuant to 40 C.F.R. § 63.1380(a), NESHAP Subpart NNN applies to each owner or operator of a wool fiberglass manufacturing facility that is a major source.

4. Pursuant to 42 U.S.C. § 7412(a)(9) and 40 C.F.R. § 63.2, *owner or operator* means any person who owns, leases, operates, controls, or supervises a stationary source.

5. Pursuant to 40 C.F.R. § 63.1381, *wool fiberglass manufacturing facility* means any facility manufacturing wool fiberglass on a rotary spin manufacturing line or on a flame attenuation manufacturing line.

6. Pursuant to 40 C.F.R. § 63.1381, *wool fiberglass* means insulation materials composed of glass fibers made from glass produced or melted at the same facility where the manufacturing line is located.

7. Pursuant to 40 C.F.R. § 63.1381, *rotary spin* means a process used to produce wool fiberglass building insulation by forcing molten glass through numerous small orifices in the side wall of a

spinner to form continuous glass fibers that are then broken into discrete lengths by high-velocity air flow.

8. Pursuant to 40 C.F.R. § 63.1381, *flame attenuation* means a process used to produce wool fiberglass where molten glass flows by gravity from melting furnaces, or pots, to form filaments that are drawn down and attenuated by passing in front of a high-velocity gas burner flame.

9. Pursuant to 42 U.S.C. § 7412(a)(1) and 40 C.F.R. § 63.2, a *major source* means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

10. Pursuant to 42 U.S.C. §§ 7411(a)(3), 7412(a)(3) and 40 C.F.R. § 63.2, a *stationary source* means any building, structure, facility, or installation which emits or may emit any air pollutant.

11. Pursuant to 40 C.F.R. § 63.1380(b)(1), the requirements of NESHAP Subpart NNN apply to each new and existing glass-melting furnace located at a wool fiberglass manufacturing facility.

12. Pursuant to 40 C.F.R. § 63.1381, a *glass-melting furnace* means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass.

*NESHAP Subpart NNN: Glass-Melting Furnace Emissions Standards*

13. Pursuant to 40 C.F.R. § 63.1382(a), the owner or operator must control emissions from each glass-melting furnace as specified in Table 2 to NESHAP Subpart NNN.

14. Table 2 to NESHAP Subpart NNN prohibits the owner or operator of an affected glass-melting furnace from exceeding 0.33 pounds (lbs) particulate matter (PM) emissions per ton of glass pulled.

*NESHAP Subpart NNN: Performance Test Requirements*

15. 40 C.F.R. § 63.1384(a) requires the owner or operator subject to the provisions of the NESHAP to conduct a performance test to demonstrate compliance with the applicable emission limits in 40 C.F.R. § 63.1382. Compliance is demonstrated when the emission rate of the pollutant is equal to or less than each of the applicable emission limits in 40 C.F.R. § 63.1382.

16. Pursuant to 40 C.F.R. § 63.1384(b), compliance with the PM emission limit for glass-melting furnaces is determined by taking the product of the (1) concentration of PM and (2) volumetric flow rate of exhaust gases and dividing by the average glass pull rate in accordance with Equation 1 to NESHAP Subpart NNN.

17. Pursuant to 40 C.F.R. § 63.1384(e), the owner or operator of an affected facility under NESHAP Subpart NNN must conduct a performance test to demonstrate compliance with each of the applicable PM, formaldehyde, phenol, and methanol emissions limits in 40 C.F.R. § 63.1382 at least once every five years following the initial performance or compliance test.

*NESHAP Subpart NNN: Good Air Pollution Control Practices*

18. Pursuant to 40 C.F.R. § 63.1387(c), at all times, the owner or operator must operate and maintain any affected source under NESHAP Subpart NNN, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

*NESHAP Subpart NNN: Monitoring Requirements*

19. Pursuant to 40 C.F.R. § 63.1383(a), the owner or operator of each wool fiberglass manufacturing facility must prepare a written operations, maintenance, and monitoring plan ("OMMP") for each glass-melting furnace, rotary spin manufacturing line, and flame attenuation manufacturing line subject to the provisions of NESHAP Subpart NNN. The OMMP must include, among other information, procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturer's instructions.

20. Pursuant to 40 C.F.R. § 63.1383(b)(1), where a baghouse is used to control PM emissions from a glass-melting furnace, the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system ("BLDS").

21. Pursuant to 40 C.F.R. § 63.1383(b)(1)(v), when an owner or operator uses a triboelectric BLDS, they must install, operate, adjust, and maintain it in a manner consistent with the EPA guidance document *Fabric Filter Bag Leak Detection Guidance* (EPA-454/R-98-015, September 1997).

22. In Section 5.2 of the Fabric Filter Bag Leak Detection Guidance ("BLDS guidance"), step 2 of the general procedures for setting the baseline and alarm levels for an analog BLDS includes setting the delay time. *Delay time* means a set time after an emission increase is detected during which the monitor does not indicate an alarm. The BLDS guidance states that the delay time should be zero and the use of a delay time is not recommended.

23. In Section 5.2 of the BLDS guidance, step 4 of the general procedures for setting the baseline and alarm levels for an analog BLDS instructs to set a response time. *Response time* (also known as *averaging period*) means a set time over which the BLDS signal is averaged to lessen the effects of a momentary high signal. The BLDS guidance recommends a response time of 5 to 10 seconds.

24. Section 5.2 of the BLDS guidance states that site-specific conditions may require alternative procedures for setting alarm levels, including a non-zero delay time and longer-than-recommended response time. Section 5.3 of the BLDS guidance recommends an initial 30-day trial period to verify that the instrument setup is appropriate to prevent frequent false alarms and ensure the instrument has sufficient detection capability.

25. Section 6.3 of the BLDS guidance states that an annual instrument set up, as described in section 5.2 of the BLDS guidance, should be performed and documented if the monitor's settings have not been adjusted within a year's time.

26. Section 6.4 of the BLDS guidance states that the initial instrument set up procedures should also be documented so the annual instrument set up will be performed consistently. Documentation should include a description of how each was established.

**Ohio SIP: Construction Permit Program**

27. On January 22, 2003, the EPA approved Ohio's preconstruction permit program at OAC Rule 3745-31 as part of the federally enforceable SIP for Ohio. 68 *Fed. Reg.* 2909.

28. OAC Rule 3745-31-01(O)(2)[1] defines *organic compound* or *OC* as any chemical compound containing carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate, non-landfill gas methane and ethane.

29. OAC Rule 3745-31-02(A)(1)(a) states that no person shall cause, permit, or allow the installation or modification of any new source that is, or will be, part of a facility, as defined in OAC Chapter 3745-77, and that is required to obtain a Title V permit under OAC Chapter 3745-77, without first obtaining a permit-to-install ("PTI") from the director of the Ohio Environmental Protection Agency ("Ohio EPA"), except as provided by the rule.

30. OAC Rule 3745-31-05(A)(3) states that the director of Ohio EPA shall issue a PTI on the basis of the information appearing in the application, or information gathered by or furnished to the Ohio EPA, or both, if the director determines that the installation, modification, or operation of the air contaminant source will employ best available technology ("BAT").

31. OAC Rule 3745-31-05(F) states that the owner or operator of any air contaminant source may apply for a PTI to voluntarily limit the allowable emissions from the air contaminant source or limit the type of air contaminants authorized to be emitted from the air contaminant source. In such cases, the director of Ohio EPA may impose such special terms and conditions to ensure compliance with the voluntary limit on allowable emissions.

**Title V Permit**

32. The EPA promulgated full approval of Ohio's Title V program on August 15, 1995. Ohio's Title V program became effective on October 1, 1995. 60 *Fed. Reg.* 42045.

33. Ohio EPA issued to the Facility a Title V Permit (No. P0122229) effective May 16, 2018 ("2018 Title V Permit").

34. Ohio EPA issued to the Facility a Title V Permit (No. P0130948) effective February 23, 2022 ("2022 Title V Permit").

35. Ohio EPA issued to the Facility a Title V Permit (No. P0135068) effective February 16, 2024 ("2024 Title V Permit").

[1] In the approved Ohio SIP, this definition is provided at OAC Rule 3745-31-01(EEEE).

36. Pursuant to Section 502(a) of the CAA, 42 U.S.C. § 7661a(a), it is unlawful for any person to, among other things, operate a major source subject to Title V except in compliance with a Title V permit after the effective date of any permit program approved or promulgated under Title V of the CAA.

*Title V Permit: Unit 86*

37. Ohio EPA issued to the Facility a PTI (No. P0117543) effective October 15, 2014 ("2014 PTI") that established legally and practically enforceable emission limitations for Unit 86 - Forming and Collection ("Unit 86"), as requested by Johns Manville pursuant to OAC Rule 3745-31-05(F). The organic-compound limits for Unit 86 are in Condition C.1(b)(1)(b).

38. The Title V Permits all incorporate the hourly organic compound emission limit established in the 2014 PTI by stating that organic compound emissions from Unit 86 shall not exceed 5.63 lbs/hour. OAC rule 3745-31-05(F) is listed as an applicable rule/requirement. This limit is in different provisions in the permits:

| Title V Permit | Condition |
|---|---|
| 2018 | C.3(b)(1)(b) |
| 2022 | C.6(b)(1)(b) |
| 2024 | C.6(b)(1)(b) |

*Title V Permit: Finishing Units 806 and 807*

39. Ohio EPA issued to the Facility a PTI (No. P0128879) effective August 10, 2020 ("2020 PTI") that sets forth BAT requirements for Unit 807 - Finishing ("Unit 807") pursuant to OAC Rule 3745-31-05(A)(3). Those requirements are in Condition B.2(a)(2)(a).[2]

40. Condition C.14(b)(2)(a) of the 2022 Title V Permit and the 2024 Title V Permit incorporates the BAT requirement for Unit 807 from the 2020 PTI by stating that BAT has been determined to be the use of a control system consisting of a cyclone and baghouse (finishing dust collector). 100% of the PM emissions from Unit 807 shall be captured, and the control system shall achieve a 99% removal efficiency for PM emissions.

41. Ohio EPA issued to the Facility a PTI (No. P0121658) effective November 2, 2016 ("2016 PTI"). The 2016 PTI sets forth BAT requirements pursuant to OAC Rule 3745-31-05(A)(3) for Pipe Product Finishing – Unit 806 ("Unit 806"). Those requirements are in Condition C.4(b)(2)(a).

42. Condition C.37(b)(2)(a) of the 2022 Title V Permit and Condition C.36(b)(2)(a) of the 2024 Title V Permit incorporate the BAT requirement for Unit 806 from the 2016 PTI by stating that BAT has been determined to be the use of a control system consisting of a cyclone and baghouse (finishing dust collector). 100% of the PM emissions from Unit 806 shall be captured, and the control system shall achieve a 99% removal efficiency for PM emissions.

[2] The 2020 PTI states that these requirements cease to be enforceable after commencing operation under the terms specified in Section C.1 of the 2020 PTI, which include particulate emission limitations specified pursuant to OAC Rule 3745-31-05(D).

## Factual Background

43. Johns Manville is the owner and operator of the Facility, which is located at 925 Carpenter Road, Defiance, Ohio 43512.

44. On August 15, 2023, the EPA conducted a Clean Air Act inspection at the Facility.

45. On September 15, 2023, Johns Manville provided documentation to the EPA following the inspection ("the September submittal").

46. In the September submittal, Johns Manville provided its OMMPs for its manufacturing lines subject to the NESHAP Subpart NNN requirements at 40 C.F.R. § 63.1383(a). These OMMPs include descriptions and procedures for the following emissions units:

    a. melters 100, 200, and 300 ("the Melter 100–300 OMMP");

    b. melter 400 ("the Melter 400 OMMP");

    c. melter 89 ("the Melter 89 OMMP"), and

    d. Units 81, 82, and 86 (collectively "Units 81, 82, and 86 OMMPs").

47. On March 25, 2024, the EPA issued a CAA Section 114 request for information to Johns Manville ("the information request").

48. On April 25, 2024, Johns Manville uploaded its response to the information request. Johns Manville reuploaded its response on August 8, 2024, upon the EPA's request ("response to the information request").

49. On September 9, 2024, upon the EPA request, Johns Manville provided its current facility profile report for the Facility ("the Facility profile report").

**NESHAP Subpart NNN**

50. Johns Manville is subject to NESHAP Subpart NNN pursuant to 40 C.F.R. § 63.1380(a) because it owns and operates the Facility which:

    a. Manufactures wool fiberglass on rotary spin and flame attenuation manufacturing lines, thereby meeting the definition of *wool fiberglass manufacturing facility*; and

    b. Is a major source of HAP.

51. The Title V Permits for the Facility identify the following emissions units as affected sources under NESHAP Subpart NNN (emissions unit identification provided in parentheses):

    a. Existing pot and marble flame attenuation units known as Units 81 (P001), 82 (P012), and 86 (P015);

b. Existing glass-melting furnaces known as melters 89 (P047), 100 (P061), 200 (P062), and 300 (P063); and

c. New glass-melting furnace known as melter 400 (P126).

52. In Units 81, 82, and 86 OMMPs, Johns Manville states that Units 81, 82, and 86 employ a series of pots that receive glass marbles from a conveyor. The marbles are re-melted in refractory-lined, natural-gas-fired pots. The molten glass is pulled out of the bottom orifices of the pots in strands by a pull roller, after which the strands are attenuated into fiberglass at the forming tube using high-velocity natural gas burners.

53. The Units 81, 82, and 86 OMMPs indicate that the re-melt pots for these units do not meet the definition of *glass-melting furnace* provided at 40 C.F.R. § 63.1381. The OMMPs do not explain the basis for this determination.

54. In the Melter 400 OMMP, Johns Manville states that at melter 400, glass marbles are conveyed from batch storage to the marble re-melt electric melters located on each fiber glass manufacturing lines. Despite melter 400's similarities with the re-melt pots for Units 81, 82, and 86—which Johns Manville says are not glass-melting furnaces—Johns Manville states that melter 400 is an affected glass-melting furnace under 40 C.F.R. § 63.1381.

55. The re-melt pots of Units 81, 82, and 86 are *glass-melting furnaces* as defined in 40 C.F.R. § 63.1381 because they are refractory vessels in which glass marbles (raw materials) are charged, melted at high temperature, refined, and conditioned to produce molten glass.

56. The requirements of NESHAP Subpart NNN apply to melters 89, 100, 200, 300, and 400 and the re-melt pots of Units 81, 82, and 86 pursuant to 40 C.F.R. § 63.1380(b)(1) because they are each a new or existing glass-melting furnace located at a wool fiberglass manufacturing facility.

*NESHAP Subpart NNN: Performance Tests at Units 81, 82, and 86*

57. Johns Manville has not conducted a performance test on the re-melt pots for Units 81, 82, or 86 in accordance with the requirements of 40 C.F.R. § 63.1384(a) to demonstrate compliance with the applicable PM limits at 40 C.F.R. § 63.1382(a).

*NESHAP Subpart NNN: PM Emissions Limits at Units 81, 82, and 86*

58. AP-42, Compilation of Air Pollutant Emission Factors for Stationary Sources (AP-42) is a compilation of air pollutant emission factors that has been published since 1972 as the primary compilation of the EPA's emission factor information. It contains emission factors and process information for more than 200 air pollution source categories. The emissions factors have been developed and compiled from source test data, materials balance studies, and engineering estimates.

59. AP-42 Final Section 11.13 was published September 1985 and is a compilation of air pollutant emission factors for air pollution sources that manufacture glass fibers.

60. AP-42 Section 11.13 has emission factors for processes including, but not limited to, glass melting and refining. Within this process, glass-melting furnaces can be categorized by their

fuel source and method of heat application into four types, including unit melter furnaces. Unit melters also are used only for the indirect marble melting process. *Indirect melting* means melting glass to form marbles for later remelt.

61. The re-melt pots for Units 81, 82, and 86 are *unit melters,* as defined by Section 11.13.1 of AP-42, because they are furnaces that are used for remelting marbles in the indirect melting process.

62. The re-melt pots for Unites 81, 82, and 86 are unit melters fueled by gas.

63. Table 11.13-2 at AP-42 Section 11.13 provides that the emission factor for wool fiberglass glass-melting furnaces that are gas-fired unit melters is 9 lbs PM per ton of material processed.

64. There is no evidence that the AP-42 factor should not apply to the re-melt pots for Units 81, 82, and 86. Johns Manville does not have any site-specific data (e.g., a performance test required by 40 C.F.R. § 63.1384(a)) to show that the AP-42 factor should not apply. Additionally, Johns Manville does not use PM air pollution control devices for the re-melt pots for Units 81, 82, and 86.

65. Therefore, 9 lbs PM per ton of glass pulled is an appropriate emissions factor for Units 81, 82, and 86.

*NESHAP Subpart NNN: Capture Efficiencies at Melters 89, 100, and 200*

66. Good air pollution control practices for minimizing emissions include, among other practices, operating and maintaining affected facilities such that the assumed emissions capture efficiencies are achieved. An assumed emissions capture efficiency indicates that an emissions unit and its associated pollution control device are designed to be operated under this efficiency. Additionally, an assumed emissions capture efficiency is used to demonstrate compliance with emissions limits.

67. In its response to the information request, Johns Manville provided a spreadsheet that identified the assumed capture efficiencies for each control device at its Facility ("the capture efficiency table").

68. In the capture efficiency table, the assumed capture efficiency for melters 100 and 200 is 100%. Johns Manville provided a comment that this was an engineering estimate from its 2004 PTI application.

69. The capture efficiency table does not provide an assumed capture efficiency for melter 89. The narrative provided by Johns Manville in the response to the information request states that Johns Manville could not locate the assumed capture efficiency for melter 89, but Johns Manville expects the assumed capture efficiency to be documented in the original PTI application for the emissions unit.

70. The Facility profile report, which documents information provided by Johns Manville in PTI applications, lists the capture efficiency for the baghouse associated with melter 89 as 100%.

71. During the inspection, the EPA observed uncaptured PM emissions from melters 100 and 200, including fugitive emissions from the ducts routing melter emissions to the control device, indicating that Johns Manville was not achieving the assumed 100% capture efficiency.

72. During the inspection, the EPA observed uncaptured PM emissions from melter 89 indicating that Johns Manville was not achieving the assumed 100% capture efficiency, as described below and shown in Figure 1:

    a. PM emissions were bypassing ductwork to the melter baghouse, as evidenced by a visible haze around the melter;

    b. PM had accumulated around the melter area and on elevated surfaces;

    c. A roof vent directly above the melter was open to the atmosphere, with PM accumulated in the vent; and

    d. A wheelbarrow and shovel were located near the melter for collecting accumulated PM on the melter platform.

*Figure 1. Photos taken by EPA during the inspection on August 15, 2023, showing a haze around melter 89 (left), PM accumulated on the melter 89 platform (top right), and PM accumulated in the roof vent above melter 89 (bottom right).*

*NESHAP Subpart NNN: Melter 89 Performance Testing*

73. Johns Manville conducted emissions testing on April 27, 2022, to verify the emissions of filterable PM from the baghouse serving melter 89 ("2022 melter 89 performance test").

74. Johns Manville provided a test report for the 2022 melter 89 performance test in the September submittal ("melter 89 test report").

75. The melter 89 test report states that the 2022 melter 89 performance test was performed for the purpose of satisfying the emission testing requirements pursuant to the 2022 Title V Permit and NESHAP Subpart NNN.

76. A performance test that does not consider significant uncaptured emissions cannot demonstrate compliance with the PM emission limit for glass-melting furnaces in accordance with 40 C.F.R. § 63.1384(b) because such performance test:

    a. Would not accurately determine the inputs for Equation 1 to NESHAP Subpart NNN; and

    b. Would not demonstrate that emissions were less than or equal to 0.33 lb PM per ton of glass pulled.

77. The 2022 melter 89 performance test quantified emissions downstream of the melter 89 baghouse and exhaust fan but did not consider the significant uncaptured emissions described at paragraph 72, above.

78. Therefore, the 2022 melter 89 test report does not demonstrate compliance with the emission limit for glass-melting furnaces as specified by 40 C.F.R. § 63.1382(a) (0.33 lb PM per ton of glass pulled).

79. The most recent PM emissions performance test on melter 89 prior to the performance test of April 27, 2022, was conducted by Johns Manville on June 27, 2017.

*NESHAP Subpart NNN: Bag Leak Detection Systems at Melters 89, 100, 200, 300, and 400*

80. Johns Manville provided the following information about the BLDSs at its Facility in the Melter 100–300 OMMP, Melter 400 OMMP, and Melter 89 OMMP, respectively:

    a. The Facility employs two dust collectors as add-on air pollution control devices for melters 100–300. Both dust collectors are equipped with a triboelectric bag leak detection system ("the Melter 100–300 BLDS"), which purportedly meets the requirements set forth in 40 C.F.R. § 63.1383(b) and the BLDS guidance.

    b. The Facility employs a dust collector as an add-on air pollution control device for melter 400. The dust collector is equipped with a triboelectric leak detection system ("the Melter 400 BLDS"), which purportedly meets the requirements set forth in 40 C.F.R. § 63.1383(b) and the BLDS guidance.

    c. The Facility employs one dust collector as an add-on air pollution control device for melter 89. The dust collector is equipped with a triboelectric bag leak detection system which purportedly meets the requirements set forth in 40 C.F.R. § 63.1383(b) and the BLDS guidance ("the Melter 89 BLDS").

81. In its response to the information request, Johns Manville provided the below information for the Melter 100–300 BLDS, the Melter 400 BLDS, and the Melter 89 BLDS. Recommended times from the BLDS guidance are included for reference.

| Melter BLDS | Averaging Period (aka Response Time) | Recommended Range for Averaging Period in BLDS Guidance | Delay Time | Recommended Range for Delay Time in BLDS Guidance |
|---|---|---|---|---|
| **Melter 100–300 BLDS** | 90 seconds | 5 to 10 seconds | 60 seconds | 0 seconds |
| **Melter 400 BLDS** | 10 seconds | | 30 seconds | |
| **Melter 89 BLDS** | 2 seconds | | 30 seconds | |

82. In its response to the information request, Johns Manville provided the following information for the Melter 100–300 BLDS, the Melter 400 BLDS, the Melter 89 BLDS:

    a. Current Johns Manville personnel are not aware of any adjustments to the BLDS settings from March 1, 2019, to April 25, 2024, the date of the information request's submittal.

    b. Johns Manville has not completed any annual instrument setups described in section 6.3 of the BLDS guidance document. Rather than doing this, the Facility conducts monthly response tests and utilizes the automatic calibration integrated in the Triboelectric BLDS to verify each system is operating properly.

83. In its response to the information request, Johns Manville provided that it could not locate the original baseline data for the Melter 100–300 BLDS and the Melter 89 BLDS.

**Title V Permit**

*Title V Permit: Organic Compound Emissions Exceedance*

84. Formaldehyde, methanol, and phenol are chemical compounds containing carbon and are therefore *organic compounds* as defined in OAC Rule 3745-31-01(O)(2).

85. In the September submittal, Johns Manville provided its performance test report for Unit 86 ("the 2020 Stack Test"). Testing was conducted on May 12, 2020.

86. The 2020 stack test showed the following emissions rates for the East and West Forming and Collection Exhaust Stacks for Unit 86:

| **Pollutant** | **Emissions Rate at Unit 86 West Forming and Collection Exhaust Stack** (lbs/hr) | **Emissions Rate at Unit 86 East Forming and Collection Exhaust Stack** (lbs/hr) |
|---|---|---|
| Formaldehyde | 0.15 | 0.23 |
| Methanol | 0.17 | 0.32 |
| Phenol | 1.87 | 3.23 |
| **Total Selected Organic Compounds** | 2.19 | 3.78 |

87. The 2020 Stack Test demonstrated that the Facility emits 5.97 lbs/hr of organic compounds at Unit 86 at all times the Unit 86 East and West Forming and Collection Exhaust Stacks are both in operation.

88. In its response to the information request, Johns Manville stated, "Emissions from the collection system [associated with Unit 86] are routed independently through the east and west stack. … Routing through both stacks occurs most of the operating year."

89. Therefore, the Facility emits over its permit organic-compound limit of 5.63 lbs/hour at Unit 86.

*Title V Permit: Capture at Units 806 and 807*

90. During the inspection, the EPA observed that the area around the Finishing operations at Units 806 and 807 had uncaptured PM. For example, Unit 806 had accumulated PM on the areas around the unit and on the ductwork to the control devices as shown in Figure 2, below:

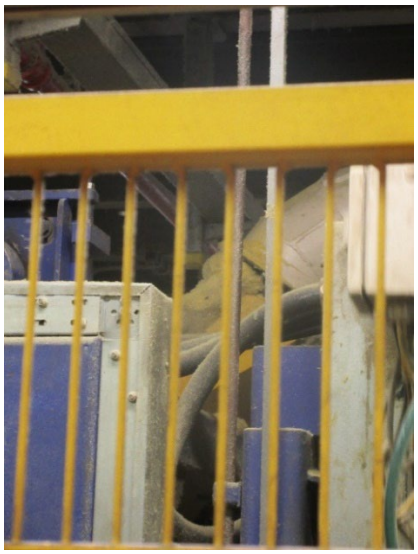

Figure 2. *Photo taken by EPA during the inspection of August 15, 2023, showing accumulated PM on Unit 806*

## Violations

### NESHAP Subpart NNN

91. Johns Manville violated the glass-melting furnace emission standard at 40 C.F.R. § 63.1382(a) by exceeding 0.33 lb PM per ton of glass pulled at Units 81, 82, and 86.

92. Johns Manville violated 40 C.F.R. § 63.1384(a) by failing to conduct a performance test on the re-melt pots of Units 81, 82, and 86 at any time that demonstrated compliance with the glass-melting furnace emission standard at 40 C.F.R. § 63.1382(a).

93. Johns Manville violated 40 C.F.R. § 63.1384(e) by failing to conduct a performance test on melter 89 at least once every five years that demonstrated compliance with the glass-melting furnace emission standard at 40 C.F.R. § 63.1382(a). Specifically, the 2022 melter 89 performance test failed to consider significant uncaptured emissions from the glass melting furnace that are not routed to the control device.

94. Johns Manville violated 40 C.F.R. § 63.1387(c) by failing to operate and maintain Melters 100, 200, and 89 in a manner consistent with safety and good air pollution control practices for minimizing emissions. Specifically, Johns Manville failed to capture all particulate matter emissions generated from melters 100, 200, and 89 to meet the assumed capture efficiencies of the associated baghouses, as observed during the inspection on August 15, 2023.

95. Johns Manville violated 40 C.F.R. § 63.1383(b)(1)(v) by failing to operate, adjust, and maintain its triboelectric bag leak detection systems in a manner consistent with the BLDS guidance by:

    a. Using a delay time for the Melter 100–300 BLDS, the Melter 400 BLDS, and the Melter 89 BLDS;

    b. Using an averaging period (response time) greater than the recommended time for the Melter 100–300 BLDS;

    c. Using an averaging period less than the recommended time for the Melter 89 BLDS;

    d. Failing to conduct an annual instrument set up when the settings had not been adjusted within a year's time for the BLDSs for Melters 89, 100, 200, 300, and 400; and

    e. Failing to document the initial instrument set up procedures. (Johns Manville failed to provide a description or documentation on how it established the baseline for the Melter 100–300 BLDS and the Melter 89 BLDS.)

### Title V Permit

96. Since May 12, 2020, Johns Manville emitted more than 5.63 lbs/hr of organic compounds at Unit 86, in violation of Condition C.3(b)(1)(b) of the 2018 Title V Permit and Condition C.6(b)(1)(b) of the 2022 Title V Permit and 2024 Title V Permit, as well as OAC rule 3745-31-05(F).

97. Johns Manville did not achieve 100% capture for particulate emissions at Unit 807, as observed during the inspection on August 15, 2023, in violation of Condition C.14(b)(2)(a) of its 2022 Title V Permit and 2024 Title V Permit, as well as OAC Rule 3745-31-05(A)(3).

98. Johns Manville did not achieve 100% capture for particulate emissions at Unit 806, as observed during the inspection on August 15, 2023, in violation Condition C.37(b)(2)(a) of its 2022 Title V Permit, Condition C.36(b)(2)(a) of its 2024 Title V Permit, and OAC Rule 3745-31-05(A)(3).

**Environmental Impact of Violations**

99. These violations have caused or can cause excess emissions of ozone. Breathing ozone contributes to a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level ozone also can reduce lung function and inflame lung tissue. Repeated exposure may permanently scar lung tissue.

100. These violations have caused or can cause excess emissions of PM. PM, especially fine particulates, contains microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. PM exposure contributes to:

    a. irritation of the airways, coughing, and difficulty breathing;

    b. decreased lung function;

    c. aggravated asthma;

    d. chronic bronchitis;

    e. irregular heartbeat;

    f. nonfatal heart attacks; and

    g. premature death in people with heart or lung disease.

101. These violations have caused or can cause excess emissions of hazardous air pollutants (HAPs), including three metal HAPs (arsenic, chromium, lead) and three organic HAPs (formaldehyde, phenol, and methanol). Exposure to these HAPs can cause reversible or irreversible health effects, including carcinogenic, respiratory, nervous-system, developmental, reproductive, and/or dermal-health.

MICHAEL HARRIS Digitally signed by MICHAEL HARRIS
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Michael D. Harris
Division Director
Enforcement and Compliance Assurance Division